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NEW YORK'S SECOND AUTOMOBILE SHOW

GRAND CENTRAL PALACE EXHIBITION WELL PATRONIZED—SPECTACULAR FEATURES OF PREVIOUS SHOW MISSING BUT DISPLAYS OF VEHICLES AND PARTS FURNISH GOOD OPPORTUNITY FOR THOROUGH INSPECTION—IT IS A TRADE AFFAIR

New York, Nov. 18.—The automobile show in Grand Central Palace opened here Wednesday evening and, contrary to the expectation of those who had surmised that the previously held Madison Square Garden show would satiate immediate popular interest in motor-vehicle displays, the exhibition floor was comfortably filled with visitors.

Some of the exhibits were not in place when the doors of the Palace were thrown open to the public and some of the remainder were still in the preparatory stage; thus unavoidable vacant spots here and there detracted from the pictorial effect of the show on opening night. Comparing this show with the Garden show of the previous week it should be noted in favor of the Palace exhibition that the aisles and promenades are much wider than those at the previous affair and hence the crowds do

not seem as large as when congested in narrower passages.

Vehicles in Operation

As might be expected at any automobile show, the chief interest of the opening night, as well as of the following days, centered around the small track in the middle of the main section of the Palace floor. All the evening the crowd was four and five deep around the railing and the exhibition performances of the vehicles on the oval elicited much favorable comment.

Commercial Advantages

The number of exhibitors present being comparatively small and the stands occupied by them being larger than is usual, persons interested in the inspection of automobiles and accessories had ample opportunity for close study and observation, and it is the advantages offered by the show in this direction which counteracts the lack of spectacular features and ensemble and affords the useful purpose of trade advancement. There are many prospective automobile dealers who wish to spend considerable time learning the distinctive points of the various carriages. The fact that these were in evidence during the morning and afternoon gatherings at the Madison Square Garden show demonstrates that they are in search of more detailed information than can be picked up during the course of an unsystematic ramble from one display to another in the midst of a lively moving, evening crowd. Hence the Central Palace show offers this element of the trade, as well as individuals interested in automobiles from standpoint of personal use, a good chance to talk to, and examine the products of a fair number of representative makers.

Public Deeply Interested

That the show, following in the footsteps of the great exposition at the Garden, should attract the steady and satisfactory attendance that it does, proves the deep-seated and widespread interest of the public in motor vehicles. The people who attend the Palace show come solely to examine the vehicles and not at all to look at the crowds and the decorations. They represent largely the buying class of the present or the immediate future. At the Garden the great crowds around the booths stood in the way of unrestricted questioning and many an intending purchaser or otherwise interested visitor had to go away with incomplete information. At the Palace, however, not only is there ample aisle space in the booths but the opportunity to ask questions freely and receive complete information is unlimited.

A good orchestra furnished concerts afternoon and evening and the visitors do not seem to find the show tiresome. The affair seems to be pleasant and profitable to those who do not need the stimulous of many people to become interested in an educational exhibition.

Exhibitors Satisfied

Manager Nathan said to a Motor Age representative that the show was a success, and continued:

"The crowds we have all along played for during horse show week have not come yet and we are dependent entirely on local interest. Next week, though, I am sure they will be here; for every hotel guest on his arrival will receive attractive advertising matter. Then, again, in the early days of our show we naturally suffer from the reaction of an exciting week at the Garden. Even at this stage of the game, though, our exhibitors are well satisfied. All express to me satisfaction with the business they have already done and before the show closes I expect that all of them will sign an indorsement of the Palace show as a valuable medium of advertisement and an effective means of selling. We have a dozen concerns which were not at the Garden, and all say they have done good business. Other concerns have applied for space during the balance of the week."

THE EXHIBITS

Several of the exhibitors brought from the Madison Square show the vehicles and other products shown there and arranged displays of the same character and appearance. In addition to these, however, are several who were not present at the first exhibition and also a few whose displays at the Central Palace

are the first public presentation of their goods.

American Electric Vehicle Co.

While in general appearance the electric carriage of this concern, whose main office is at 134 West Thirty-eighth Street, New York city, cannot be said to possess great distinctiveness, its construction involves several characteristic points which demonstrate the somewhat unappreciated fact that all electric are not alike. The battery used has a special form of grid which is the result of careful experiment to reduce weight and increase efficiency. The armature shaft is hollow, the solid rear wheel axle passing through it and terminating in differential gears, but one motor being employed. The motor is multipolar, series would and is used on no other vehicle. The carriage is furnished with the usual operating conveniences such as cut-out and resistance for facilitating charging, combination ammeter and volt meter and driving lock for service during absence of operator. Five speeds up to seventeen miles per hour are furnished.

American Roller Bearing Co.

As at Madison Square, the American Roller Bearing Co. of Boston, shows but a few sample bearings and wheels and these are stock articles, no attempt having been made to produce extraordinarily well finished samples for exhibition. The company believes its regular goods, backed up by their present wide usage, are the best form of show advertising. The most interesting feature of the exhibit is the collection of samples of purposely broken bearing parts used to demonstrate the excellence of the case-hardening methods employed in the factory. All of the parts of the American roller bearing are of a specially chosen mild steel, case-hardened, and are thus extremely tough and strong, it being possible to bend them to a considerable extent without breaking, an impossibility were the pieces of tempered tool steel. Case-hardening of fine bearing parts is becoming more popular than formerly, the careful work of such firms as the American Roller Bearing Co., having helped to dispel the erroneous popular idea that all case-hardening means the production of a thin hard shell by the application of cyanide of potassium or by some other equally crude method. Everyone of the samples inspected at this exhibit by The Motor Age representative showed a sharply defined regular shell thoroughly carbonized and hardened to the correct depth.

Buffalo Electric Carriage Co.

In addition to the two stanhopes shown by the Buffalo company at Madison Square Garden show, another vehicle of the same type with victoria top and bright yellow running gear is presented. It is the claim of the company that its vehicles are built on recognized carriage lines by carriage builders, that no tubing is used in their construction, all of the frame work and the reaches being of seasoned timber, and that the trimmings are in every particular equal to those of the highest class carriage known to the trade. The seat is 41 inches wide and roomy enough for three persons. The highest speed is fifteen miles per hour, but the greatest mileage on one charge is obtained at the intermediate speed of eight miles per hour, at which speed a radius of fifty miles is possible. One carriage in unpainted condition shows the character of work expended in the building of the vehicles.

Baldwin Cycle Chain Co.

The strongest recommendation offered for Baldwin chains is that they are used on nearly all of the chain driven automobiles made in this country. The adjustable feature of these chains and the detachable construction are of especially notable advantage in connection with automobiles, whose great driving power in comparison with that of bicycle renders the wearing of chains much more liable. Thus to be able to readily, by simply turning the chain pins around, restore a worn chain to its original pitch, is a convenience of no mean importance to motor-vehicle makers and users. The exhibited products of the Worcester, Mass., factory also includes block chains and sprockets of various sizes. The company is prepared to figure on sprockets of special sizes and patterns and will

quote prices promptly upon receipt of blue prints and specifications.

Canda Mfg. Co.

The Canda Mfg. Co. of Cartaret, N. J., is one of the American pioneers in air-cooled motor building and in the erection of light gasolene vehicles. It experimented carefully for years before it introduced its motors and machines publicly. Now its quadricycles, quadricycle vans, tricycles and spider stanhopes are the subject of considerable comment in the trade. The machines exhibited are the same as those displayed at the Garden show, and the quadricycle van which attracted so much attention there and which was illustrated in The Motor Age, is still a formidable rival for admirers of the spider stanhope on account of its attractive appearance and novelty. The company is very enthusiastic over the spider stanhope, however, as it believes that there will be in the near future a wide and increasing demand for light gasolene carriages propelled by air cooled motors, built on comfortable lines and selling for a moderate price.

Cooke Locomotive and Machine Co.

During the week of the Garden show much curiosity was aroused by the frequent appearance at the corners of the building of the mammoth Thornycroft steam van. This wagon, which is without doubt the largest automobile ever built in this country is the sole display of the Cooke company, but it is so large, so odd, so impressive, that it is sufficient by itself to imprint the name Thornycroft firmly upon the minds of all show visitors.

The truck is constructed under the patent of the English Thornycroft company. It is 17 feet and 6 inches long over all by 6 feet 6 inches wide. The platform, which is covered, has 68 square feet of available surface for carrying goods. The frame is of channel steel throughout and is supported upon the axles by ordinary heavy laminated springs. The boiler, which is placed on the platform in front of the driver, is of the annular water tube variety, centrally fired and with tubes protected from direct contact with the ignited fuel. The working boiler pressure is 115 pounds and the test pressure 350 pounds. The preferred fuel is a good grade of coal or coke, although the company contemplates fire box alterations providing for liquid fuel burner should this be desired.

DeDion-Bouton Motorette Co.

The De Dion-Bouton Motorette Co. of Brooklyn, exhibits the same samples of De Dion Motorettes of the Brooklyn and New York type as were shown at the Madison Square show and the same array of air-cooled and water cooled De Dion motors for attachment to light carriages and motocycles. One feature of the Motorettes which is particularly pointed out to visitors is the water circulation system for the water jacketed motor cylinder. This exhibitor aims to impress the fact that the name De Dion-Bouton stands for four years of practical development of gasolene motor building in one of the largest factories for the purpose in the world and that Motorettes are not experimental machines but thoroughly reliable vehicles to go anywhere under any conditions and management.

C. J. Downing

The most noticeable feature of the display of C. J. Downing, whose headquarters are at 97 Reade street, New York city, is the Rice automobile steam engine which is being introduced in competition to the present marine type of engine commonly employed in steam motor vehicles. The principle of operation of this engine, which is extremely simple and a brother to the rotary type engine, was published in The Motor Age in connection with the report of the Garden show.

Electric Vehicle Co.

The display of the Electric Vehicle Co., 100 Broadway, New York city, occupies almost the entire west side of the main room of the Palace and is the largest single exhibit at the show. It comprises a full line of Columbia electric vehicles including phaetons, runabouts, victorias, surreys, broughams, cabs, theatre omnibusses, wagonettes and delivery wagons, as well as the Columbia gasolene tricycle rigged as a jaunting cart with side seats for four passengers beside the driver on the bicycle saddle at the rear. The gaso-

lene runabout is also shown and attracts considerable attention.

On account of the diversity of patterns this display accentuates, more than any other exhibit at either show, the wideness of the motor-vehicle field and the variety of uses to which the automobile is being rapidly adapted.

Gleason-Peters Air Pump Co.

Known to all trades in which pressure hand and power pumps are employed as being thoroughly awake to new needs and opportunities, the Gleason-Peters Air Pump Co. of New York city, has added to its large line of automobile pneumatic tire and air tank pumps a pair of emergency water pumps, operated by hand, for steam driven automobiles. The pump will force water into the boiler while steam is up and thus obviates waste of time waiting for steam pressure to decrease before filling the boiler. It is particularly useful in hill climbing or other hard running where pressure above the normal is required. One of the two patterns can be operated without fastening and can be stowed under the seat. The other is designed to be screwed to the body of the vehicle and directly connected to the boiler.

Gray & Davis

Although the display of Gray & Davis of Amesbury, Mass., is notable mainly on account of the large number of patterns of motor-vehicle lamps which comprise the company's full line, attention is drawn particularly to the large lamp which has been styled the Locomotive Headlight. This is made in four models, operating respectively by candle, oil, electricity and acetylene gas. Gray & Davis evidently do not intend to let any of the possible avenues of profit in lamp making escape them and have so prepared to meet demands for all standard types of light givers.

Holyoke Automobile Co.

The Massachusetts company exhibits one of its gasolene touring surreys, a strongly built carriage for cross country or other hard driving as well as all around use. It has a double motor, five by six inches in cylinder size, and is rated with a maximum speed on level roads of twenty-five miles per hour. The igniter current is supplied by a special igniting dynamo which also furnishes current for the electric side lights of the carriage. Three forward and one backward speed are afforded by the transmission device, which is so constructed that the medium and high speeds are transmitted by direct chain drive from the motor shaft and the low speed and backward drive through gearing entirely on the rear axle. The radius of action of the vehicle is large, it being averred that the fuel supply will suffice for 150 miles of travel and that the cooling water supply will last for fifty miles. Small fuel consumption per mile is one of the talking points of the carriage.

Hartford Rubber Works Co.

The two most important commercial articles shown by the Hartford Rubber Works Co. of Hartford, Conn., are, of course, Hartford single tube carriage tires and Turner solid rubber tires, but far more interesting to the lay visitor is an immense rubber "biscuit" standing in one corner of the booth. This biscuit is the largest ever made and represents 1,126 pounds of pure rubber. Some day, perhaps, after it has been sufficiently exhibited in its present state, it will be made into pneumatic tires for motor vehicles.

Those in charge of this booth explain, relative to the Turner solid rubber tire, that it obviates all of the trouble common to spliced tires, such as loosening of wires and metallic fastening straps, on account of its being endless and of constant size. The tire is vulcanized in a mold and thus exact size is ensured. It is made in sizes ranging from 2½ to 4 inches for wheels of standard diameters.

Janny Steinmetz & Co.

Boiler shells of seamless cold drawn steel with bottoms integral with the walls, and capable of withstanding an extremely high pressure, are gaining for Janney, Steinmetz & Co. of Philadelphia, considerable prominence in the automobile trade. The firm makes a specialty of such boiler shells of sizes and shapes particularly adapted to steam motor-vehicle construction and already has tools for making them in sizes ranging

from 10 to 23 inches internal diameter and all lengths up to 20 inches. Another seamless drawn specialty of the firm which is applicable to automobile building is its high pressure tanks suitable for gasolene reservoirs. A great variety of sizes and shapes are offered in this line. The peculiar advantage of the Janney-Steinmetz products is that they are all smooth and bright, both internally and externally.

Knox Automobile Co.

The little three-wheeled gasolene carriage with air cooled porcupine motor, which attracted such favorable comment at the Garden show on account of its extreme simplicity and staunchness, continues to elicit the same flattering expression at the Palace, and the Knox Automobile Co. of Springfield, Mass., feel gratified that their own early prediction concerning the probable demand for a vehicle of this character is being so well realized.

Locomobile Co. of America.

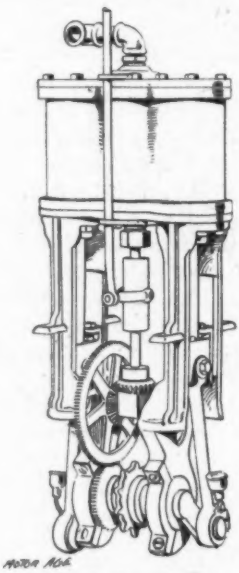
The display of the pioneers of steam carriage building on a commercial scale is not as pretentious as was its exhibit at the Garden, but the name Locomobile is so well known throughout the country that dealers looking for agencies and persons looking for practical steam carriages for individual use find much to interest them in making a study of the strong, simple apparatus of this steam wagon.

Lehman Brothers

That the automobile is rapidly claiming public attention in all branches of industry, pleasure and sport is demonstrated even by the number of makers of side lines which have entered the trade. Many firms who have never in any way been identified with the carriage or bicycle trade have learned that their product in whole or in part is adaptable to use in connection with motor-vehicles and so hasten to present it to the trade in its new role. Also many makers of carriage and bicycle accessories have introduced their goods to the motor-vehicle market. Among the latter class is the firm of Lehman Bros. of New York city. This concern exhibits at the Palace a full line of carriage heaters which are applicable to automobile heating as they occupy no more room than a small foot stool. The Lehman heater is made in several styles and sizes and burns a product known as Lehman's coal. This is prepared in cakes and burns without smoke or soot. One-third of one of the regular cakes will give a continuous steady fire for about twelve hours. The best recommendation that can be given for the Lehman products is the statement made by the company that over 135,000 heaters are now in use and that a half million cakes of coal are sold annually.

Marlboro Automobile & Carriage Co.

One of the extremely few automobile makers who graduated into the new industry from the carriage trade is the Marlboro Automobile & Carriage Co. of Marlboro, Mass. Practically all of the members of this firm have been previously identified with carriage building for a long term. The company exhibits one each of its two patterns of steam carriages. Model A is a light stanhope of regulation design and Model B is a compactly built brake. The company has many interesting points to explain concerning its engine, boiler, throttle and reversing lever, compensating gear and brake, and in nearly every instance the

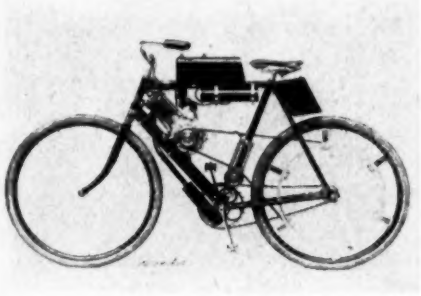


Oneida Steam Engine

chief merit claimed is simplicity. Being thoroughly familiar with carriage building, the concern takes especial care in the construction of the bodies of its steam vehicles and aims toward durability in all such work and in upholstering.

Mobile Co. of America

Although the Mobile is generally considered in the light of second-cousin or even brother-in-law to the Locomobile, its manufacturers are prepared to dispel this idea by explanation of innumerable small points in the construction of the boiler, engine and running gear which are characteristic of the Mobile. The Palace show affords a good opportunity for the explanation of the Mobile's working parts inasmuch as the grade climbing exhibition given by the Mobile Co. on the roof of Madison Square Garden during the previous show excited a run of



Thomas Motor Bicycle

interest in Mobiles which has been switched over to the company's large exhibit at the Palace. Here all of the numerous patterns of carriages are shown and plenty of attendants are there to do the talking and practical demonstrating.

New Haven Carriage Co.

Wooden wheels of numerous sizes, weights and styles are shown by the New Haven Carriage Co., a firm which has had extensive experience in the manufacture of such wheels. The company will make to order or supply stock wheels and will fit them with any kind of solid rubber, cushion or pneumatic tire desired or supply the wheels without tires. Heavy wheels which will stand all manner of hard usage are a specialty.

Overman Automobile Co.

The Overman company, whose business office is at 81 Fulton street, New York city, shows the same Victor steam carriage whose numerous peculiar and distinctive features created a lasting impression upon the many who inspected it at the Garden exhibition.

Oneida Automobile Co.

The Oneida Automobile Co., which at present operates under the management of the Oneida Rubber Tire Works of Oneida, N. Y., has recently brought out an engine for steam vehicles which possesses the unique feature of rotary valve to displace the slide valve mechanism common to engines of this type. This engine is shown in the accompanying illustration. The steam chest is between the two cylinders and the rotary valve is operated by a simple system of bevel gears. The link motion and eccentric are obviated. The engine is started, reversed and stopped by the movement of a vertical rod on the front of the engine and which is attached to the rotary valve shaft. When this rod is at its highest point the engine is driving forward, at the midway point the ports into the cylinders are all cut off and at the lowest point the engine drives backward. The Oneida company is now at work on a new model of the same engine which will have an encased crank shaft.

Standard Automobile Vehicle Co.

This Boston concern exhibits the steam runabout which it has recently brought out and for which many novel details of construction are claimed.

Strong & Rogers

As its business is to build handsome electric stanhopes of the spider pattern to order, Strong & Rogers of Cleveland, show but one machine, the same that was exhibited at the Garden. This carriage is one of the most carefully finished vehicles on the market and is a vehicle that should become popular with the fashionable element as it is stylish in the extreme and unquestionable first-class in the matter of upholstery and trimmings.

E. R. Thomas Motor Co.

The seventy-five pound motor bicycle exhibited by the E. R. Thomas Motor Co. of Buffalo, N. Y., is one of the most novel machines in the show. The productions of this company were not ready

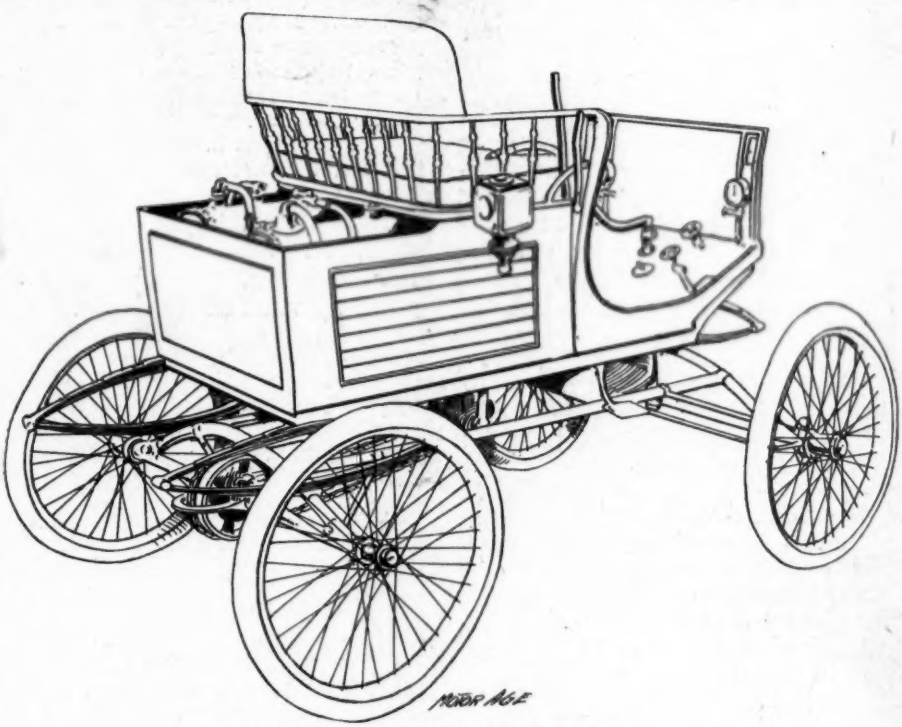
for display at the first show and so the entire exhibit is new and interesting, but the bicycle attracts the most attention. It is shown in the accompanying illustration from which it is noticeable that the bicycle itself is of standard design and size. The motor is mounted on an aluminum bed plate which rest on the bottom frame reach and is securely fastened to the seat mast at the crank yoke and to the lower end of the steering head. The motor lies with its head toward the wind and is thus in a good position to get sufficient cooling draught. The driving connection is a plain round belt running direct from the motor shaft pulley to a large pulley on the rear wheel. An idler pulley running on a stub axle attached to a movable support on the seat post acts as tension regulator. The sparking coil is hung from the top frame reach which also carries the gasolene tank. The batteries are encased in a carrier attached to the rear of the frame. The rider is given control of the machine with his feet by regular bicycle driving gear, and as the rear wheel is fitted with a Morrow coaster brake hub he can assist the motor by pedaling, ride with his feet stationary on the pedals or effectively brake the machine by back pedaling. The current for the igniter is controlled by one of the handle bar grips.

E. R. THOMAS MOTOR CO'S. "AUTO-TRI."

In addition to its motor bicycle and a motor tricycle the Thomas company shows a brand new three wheeled carriage. This is a low comfortable machine of the spider type with air cooled motor. It has a tubular frame of novel design and very simple mechanism. The motor is hung in an upright position back of the rear axle and drives directly to the

axle through an encased spur gear speed changing device. The front of the carriage seat is open and covered with screening, thus allowing a steady current of air to pass to the rear and cool the motor.

The Thomas company is rapidly getting its work under headway and even now has in stock all of the parts necessary for the erection of Thomas motor bicycles or tricycles. This will be shipped in sets to builders who desire to assemble their own machines or the completed motocycles will be furnished if desired.



TRIPLER LIQUID AIR AUTOMOBILE

Tripler Liquid Air Co.

When it was announced that the Tripler Liquid Air Co. of New York city would exhibit one of its liquid air automobiles, considerable curiosity was apparent in both trade and popular circles and it is probable that those who examined the machine at the show were a trifle disappointed to find it such an ordinary looking carriage. "Nothing more or less than a Locomobile built over," was the way in which one visitor described the machine. In fact, as far as running gear, engine, transmission gear and body are concerned the Tripler vehicle is nothing out of the ordinary. But in the rear of the carriage body is the copper liquid air boiler and it is the contents of this boiler that render the machine more than a "Locomobile built over."

The advantages claimed for this system of power production are that it can be perfectly controlled without complicated mechanism, that it is just as cleanly as electric propulsion and that it has a greater radius of operation than the electric. The company states that it has overcome many of the difficulties met in attempts to control the evaporation of liquid air and that now the liquid may be retained in perfect condition in the automobile boiler for a period of from eight to ten days with but extremely slight loss through evaporation. To those who ask questions concerning the operation of the carriage it is stated that the pressure can be controlled perfectly

and that any speed up to fifty miles an hour is obtainable.

Woods Motor Vehicle Co.

The large display of the Woods company of Chicago lends considerably to the impression that the electrics have the best of it at the show. Between this display, that of the Electric Vehicle Co. and the numerous smaller exhibitions of electric carriages, the storage battery much outnumbers the combined forces of the steam boiler and the gasolene tank. The Woods exhibit as usual comprises a line of handsome equipages of various up-to-date patterns.

Dayton Electrical Mfg Co.

Apple gas engine igniters are shown by the Dayton Electrical Mfg. Co., of Dayton, O. The igniting dynamo manufactured by this company is designed throughout for the intended purpose and is fitted with an accurately operating governor. The company also exhibits the Apple gas engine starter, which is a specially constructed storage battery for use in connection with the igniting dynamo.

Oakman Motor Vehicle Co.

One of the Hertel gasolene carriages shown by the Oakman Motor Vehicle Co. of Greenfield, Mass., is a distinct departure from the previously built models because the bicycle front fork construction in which the steering wheels were mounted has been replaced by an axle tree and steering knuckle support for the front wheels. The machine also has several other important changes and improvements in construction, although the general system of power production and transmission remains the same as in the earlier patterns.

S. E. Cohn

A metal spoked wheel for automobiles, furnished with either solid rubber or pneumatic tires, is exhibited by S. E. Cohn, 177 West Eighty-eighth street, New York city, who has but recently placed his wheel on the market.

ORGANIZATION OF MAKERS PROCEEDS

New York, Nov. 15.—The committee which had been appointed by a conference of automobile manufacturers at Madison Square Garden last Saturday to organize a national association of motor-vehicle manufacturers, met last evening at the Hoffman house. All of the eleven members of this committee were present with the exception of Messrs. Winton and Baker, of Cleveland, who had returned to their homes.

The committee had been previously vested with full power to organize and elect officers for the first year. Accordingly it proceeded without delay to the work in hand and after the election of John Brisben Walker as tmeporary chairman, and A. S. Winslow as temporary secretary of the meeting, undertook to determine the character of membership of the two classes (active and associate) which would comprise the embryo organization. It was finally decided to limit the active membership to automobile manufacturers and to let associate membership embrace makers of parts and accessories and publishers of trade papers.

Having now purpose and membership, the purpose having been defined by those present at the first general meeting, a name was given the body. Thus subsequent work related definitely to the projection of the National Association of Automobile Manufacturers.

The next step in organization was to appoint a sub-committee to secure a charter for the association. This committee comprises S. T. Davis, Jr., J. M. Hill and C. J. Field.

Another sub-committee was elected to draft constitution and by-laws. Its members are A. L. Riker, Chas. E. Duryea, Chas. E. Miller, A. S. Winslow and E. P. Wells.

After considerable discussion as to

how the association could best handle matters of legal nature, such as freight rate problems, etc., it was decided to elect a committee on legislation to assume the manipulation of such work. Accordingly, A. L. Barber, J. H. Flagler, Col. Albert A. Pope and S. T. Davis, Jr., were chosen as members of this committee, which, although nothing definitely was agreed upon concerning its life, will doubtless be considered as a standing committee of the general organization to be ratified after the charter has been secured and constitution adopted.

It was then decided that the list of probable charter members (those who had signed the organization agreement at the first general meeting) be printed and circulated and the trade canvassed for further members.

The committee adjourned with affairs in this shape, to meet Wednesday, Nov. 21, at the New York offices of the Locomobile Co. of America, 11 Broadway. At this meeting the sub-committee will report and the organization task be continued. Election of officers will doubtlessly be accomplished.

The companies who, according to the signed agreement mentioned above, will be included in the list of charter members are as follows:

Locomobile Co. of America, Mobile Co. of America, Riker Motor Vehicle Co., Electric Vehicle Co., Winton Motor Carriage Co., International Motor Carriage Co., Duryea Motor Co., Steamobile Co., St. Louis Motor Carriage Co., Waltham Mfg. Co., Baker Motor Vehicle Co., De Dion-Bouton Motorette Co., Knox Automobile Co., Peerless Mfg. Co., New York Motor Vehicle Co., Haynes-Apperson Co., Overman Automobile Co., Daimler Mfg. Co., National Automobile & Electric Co., Crescent Automobile & Mfg. Co., Ohio Automobile Co., Buffalo Electric Carriage Co., Springfield Motor Carriage Co.

The associate members include:

Upton Machine Co., Jos. Dixon Crucible Co., Chas. E. Miller, C. J. Downing, B. F. Goodrich Co., Goodyear Tire & Rubber Co., Munger Vehicle Tire Co., Diamond Rubber Co., American Dunlop Tire Co., Hartford Rubber Works Co., Veeder Mfg. Co., Gray & Davis, Motsinger Device Co., Columbia Lubricant Co., Dayton Electrical Mfg. Co., American Automobile, Motor Vehicle Review, Cycle & Automobile Trade Journal, Motor Age.

AN OPINION ON THE SELDEN PATENT

Charles F. Schmetz, a mechanical engineer of Hartford, Conn., the home of the Electric Vehicle Co., contributes the following opinion of the Selden patent to the Post of that city. He says:

"It is no wonder that Hartford is all agog in regard to the decision, which has just been published in the papers, and on which a great deal of stress is laid by the public at large, as well as by the mechanics employed at the Electric Vehicle Co. of this city, as being a very important one upon the future prospects of that branch of industry. The decision which Judge Coxe of the United States Circuit Court of New York handed down on Friday last, and which purported the overruling of a demurrer, entered in a suit by this company against the Winton Motor Carriage Co. of Cleveland, O., et al., involves what is ordinarily known as 'The Selden Patent,' the story of which may be briefly stated as follows:

"On November 5, 1895, a patent was granted to George B. Selden for a horseless carriage employing a liquid-hydrocarbon engine for its motive power, several advantages of employing this particular sort of engine (gas engine) being clearly set forth. Evidently the Electric Vehicle Co. of New York and Hartford

considered this patent to be of the greatest possible importance to them in controlling that branch of the motor vehicle industry, so that finally this patent passed into the possession of the company who now bring suit against one of the most extensive manufacturers of 'gasolene carriages,' the Winton Motor Carriage Co. of Cleveland, Ohio, the suit being based particularly on the first claim of the Selden patent.

"In the letter of notification which the Winton company received from the attorneys of the Electric Vehicle Co. warning was given to discontinue the future manufacture of gasolene vehicles and, at the same time, to pay damages for past infringement. It should be remembered that the Winton Motor Carriage Co. is, in reality, only one of a great many concerns engaged in the manufacture of gas engine vehicles, and that, therefore, if this patent should be upheld by the court, the industry in its entirety will receive its death blow and will leave the Electric Vehicle Co. master of the field.

"In opposition to this demand, the Winton company filed a demurrer which has now been overruled by the decision of Judge Coxe, and as was above stated. Let us now consider what this 'demurrer' means. To state it in plain words, and applying it to the present case, it is simply this:

"Winton attempts, or asks the court, to stay the proceedings in the condition in which they are at present, and to render a decision on the merits of the case, by filing, at the same time, a statement that Selden's patent was granted by the patent office by a mistake, inasmuch as motor carriages were well known, and, furthermore, that gas engines of various kinds had been used a long time. The court, however, does not accept Winton's case as conclusive, and decides that he must make further answer to the demands of the Electric Vehicle Co., and prove his assertions.

"From the above it will be clearly seen that no importance whatever can be attached to this decision, since it is simply an order to go ahead with the case before the court, with the proviso that a period of twenty days be the time for the Winton Motor Carriage Co. to prepare its answer to the Electric Vehicle Co.

"When it comes to a question of law in determining whether the patent of Selden was really justly granted, it is first necessary to see whether an invention really existed, or whether it was only a matter of using old devices in combination, without producing any new results. The patent law of the United States says that a patent can be granted only for an invention, and it is now for the court to decide: Whether Selden had a bona fide invention, or whether he produced a mere aggregation of well-known devices. The word 'aggregation' has been fully defined in a decision rendered by Mr. Justice Strong of the Supreme Court of the United States, and on appeal from the Circuit Court of the United States for the Northern district of New York, during the October term, 1873, in the case of Hailes & Treadwell vs. Van Wormer, in which this point is brought out: 'A grouping together of devices in which each one produces its customary effect unmodified by the rest and no more, and in which no result follows the union which was not previously produced by some of the elements, is a mere aggregation, and not a legitimate and patentable combination.'

"In consideration of the fact that a steerable vehicle was well known, as, for instance, a road wagon propelled by steam, and that, furthermore, gas engines were employed for driving shafts, etc., one will naturally come to the conclusion that Selden would hardly be entitled to an invention, since, in fact, he only substituted a gas engine for a steam engine, without producing any new results or modifying the functions of one or the other. This is the question to be decided by the court in the near future.(?)

"It is believed that the above statement of the present condition of affairs is sufficiently explicit to show that the Electric Vehicle Co. can hardly be said 'to have drawn first blood' in the controversy and that, rather, it is only the preface to a very interesting book which, in all likelihood, will contain many points of information and accounts of battles on the field of patent law."

CONSTRUCTION OF A MOTOR VEHICLE

THE PRACTICAL CONSTRUCTION OF A MOTOR VEHICLE ADAPTED FOR USE IN CONNECTION WITH THE FOUR-HORSEPOWER GASOLENE MOTOR ALREADY DESCRIBED IN THE MOTOR AGE

BY L. ELLIOTT BROOKES

PART VIII.

The present chapter completes the assembling of the vehicle which is finally completed—on paper, as the writer has completed it in metal and wood and rubber.

The transmission gearing is the next part to be located in place on the angles n and i. This should be very carefully fitted and the bevel pinion (Fig. 14) very carefully meshed between the bevel gears (Figs. 12 and 13), taking great care to ascertain that the center lines of the transmission gearing hollow sleeve and the auxiliary driving shaft are in the same plane with each other and perfectly at right angles. The holes for holding the feet of the bearing brackets (Figs. 19 and 20) can now be located in the angles n and i. This had better be done with the bearing brackets and transmission gearing in place, securely clamped to the frame, by means of a ratchet drill, as there are only four holes, and it will save lots of time and trouble and avoid dismantling the rest of the machinery which has already been assembled and which can, in this way, be left in place for good. After this operation is completed and the transmission gearing securely bolted in place, get the 1-inch babbiting shaft or mandril for the secondary shaft bearing brackets (Fig. 28). Put it in place in the hollow shaft or sleeve of the transmission gearing. The secondary shaft bearing brackets can now be clamped in place on the side bars of the frame, and properly centered and trued up with regard to the cored bearing recesses for the secondary shaft bearings. After being properly located the holes can be drilled into the frame through the holes in the bracket feet, thus insuring an accurate job. When this is done, the brackets can finally be bolted up in place for babbiting. This is such a simple operation that it is not necessary to be described, except to state that the writer has found nickel babbit to give the best wearing qualities of any he has used. The secondary shaft, differential gear casing and brake wheel can now be put in place, after its bearing brackets have been babbited and also reamed out after babbitting. Attention will now be turned to the speed transmission controlling devices. The first piece to be taken up, is the bracket (Fig. 32) for carrying the cone clutch lever (Fig. 29). This bracket should be put in place on the middle of the front cross bar a of the frame, and on its inner side as shown in Fig. 2. Get it exactly central with the transmission gearing and then locate it in the same manner as that described for the other pieces, by using a ratchet drill for the holes in the frame. The brake lever shaft brackets come next, the location for these holes is plainly given in Fig. 5 on the front of the cross bar a. They are ⅜-inch, 16 thread tap, and if due care is taken, can be laid out and drilled without assembling this mechanism.

The band brake stud brackets shown in Fig. 57 are bolted onto the angles n and i by the same bolts which hold the auxiliary driving shaft bracket (Fig. 35) in place. The right hand bracket in the drawing, goes on the left hand side of the frame angle i, outside, but with the stud pointing towards the center line of the frame. The left hand bracket goes on angle n, on the outside also, but pointing outwards, these brackets are for carrying the eye ends of the brake bands shown in Fig. 58.

The bell crank levers (Figs. 42 and 43) can now be put in place on the ⅞-inch shaft carried by the brackets (Fig. 41), and the brake bands (Fig. 58) connected

up, care being taken, however, to not tighten up the lower lock nuts on the end of the spring rods of the brake bands, but to leave the nuts on the extreme end of the thread and omit the springs until everything is ready to finally adjust the speed controlling mechanism.

The brake and controlling lever brackets (Figs. 39 and 40) can now be fitted to the body, in the positions shown in Fig. 3, with the fast speed foot bell crank lever (Fig. 52), the vehicle brake quadrant, pinion and rocker arm (Figs. 48, 49 and 51), and the forward and back and speed lever (Fig. 45). The fast speed, foot lever, quadrant and controlling lever (Figs. 53, 59 and 60) are finally attached to their body brackets. The steering lever bracket hand spindle and lever can also be located and properly fastened in place, also the ignition controlling dial and lever (Fig. 75) which goes in front below the seat as shown in Fig. 3. It is now necessary to suspend operations on this part of the assembling and take up the question of connecting up the water and gasolene tanks and muffler, and the ignition changing device.

The water tank is fully shown detailed in chapter V. of the article on "Construction of a Gasolene Motor." It is supported on the extension portion of the frame by six brackets (shown in Fig. 2) resting upon the angles n (Fig. 5) and is fastened to them by ¼-inch bolts. The connections to and from the motor to the water tank are very clearly shown in Fig. 2, and are of ⅜-inch galvanized iron pipe. Cocks and unions should be provided as shown below the motor and under each cylinder, to draw off the water from both water tank and cylinder water jackets in the winter weather, to prevent freezing and probable bursting of the cylinder jackets.

The gasolene tank is 5 inches outside diameter and 28 inches long. It has been also described in the first page of chapter VI. or the article on the "Construction of a Gasolene Motor." It should have two round bosses firmly soldered and riveted on each dished end and long enough so that they come just flush between the inside of the angles l and k of the extension part of the frame (Fig. 5). These bosses are tapped to receive ⅜-inch, 16 thread cap screws, which pass through the legs of the angles l and k and thus hold the tank in place. The gasolene tank has an extension pipe on top, with square head lever cock and funnel mouthpiece. It should be located in the position shown in plan view of body, Fig. 61. The connection pipe to the carbureter and its method of connection has already been described in the foregoing chapter.

Before leaving the gasolene tank question, the writer will describe a little device which has been found very useful in case of stoppage of the needle valve of the connection pipe from the gasolene tank. It is a rather peculiar thing, but nevertheless true, that, after the gasolene tank and connection pipe have been in use some length of time, a petroleum jelly is deposited on the bottom and sometimes on the sides of the gasolene tank, and consequently, when the gasolene is used down very low in the tank, this petroleum jelly finds it way into the connection pipe and consequently into the needle valve of the carbureter. In the ordinary forms of construction there is nothing to be done except to dismount everything and clean out the needle valve chamber and connecting pipes, which is a tedious process, especially if it is miles from nowhere. And it is just at such places these things always happen.

Get a tire valve (complete), either bicycle or motor vehicle size, although the larger is better, have it soldered in the top of the gasolene tank, where it is the most accessible to a hand pump. If your needle valve should refuse to operate some fine morning, close it tight, see that your filling cock on top of the tank is also tightly closed and then pump all the air possible into the gasolene tank through the valve, with a hand pump. Do not use a foot pump, or any pump capable of producing anything over 35 to 40 pounds pressure or there will be danger of bursting the gasolene tank. After the gasolene tank is under all the pressure the hand pump will give, open the drip cock under the carbureter and

put a pail or can under it. Then give the needle valve two or three quick turns and in 99 times out of 100 the gasolene will flow. A shut off cock or valve should be placed in the gasolene connection pipe near the right angle bend and union, convenient to the hand, so that when the carriage is not in use there will be no danger of any gasolene leaking through the needle valve. This also allows the needle valve to remain untampered with and always set in the right place.

The muffler is attached to the motor as shown in Fig. 2, and hangs down sufficiently low, so as to clear the rear axle far enough to permit all of the supporting bands shown, to be properly applied. These bands should be made from band iron or steel 1 inch wide and 1-16 of an inch thick. Unions should be put in the connection pipes between the elbows on the ends of the muffler and the ones next to the exhaust valves, so as to facilitate the removal of the muffler for cleaning purposes.

The brackets shown in Fig. 77, for carrying the ignition controlling shaft and sleeve, which is clearly shown in Fig. 2, can now be located and the proper length of the shaft and sleeve ascertained. The levers (Fig. 76) are connected up respectively to the ignition cases and to the ignition controlling dial lever by means of 5/8-inch x 1/4 or 3-16-inch wide bars of suitable lengths. The lever in the rear which operates the movement of the ignition cases, should be so set that it is in a downward vertical position when the ignition cases are at the limit of the movement towards this side. This will then give the proper length for the bar for this end. The length of the bar which forms the remaining connection to the ignition control (Fig. 75) can be better ascertained after the body is in place upon the frame and attached to the springs.

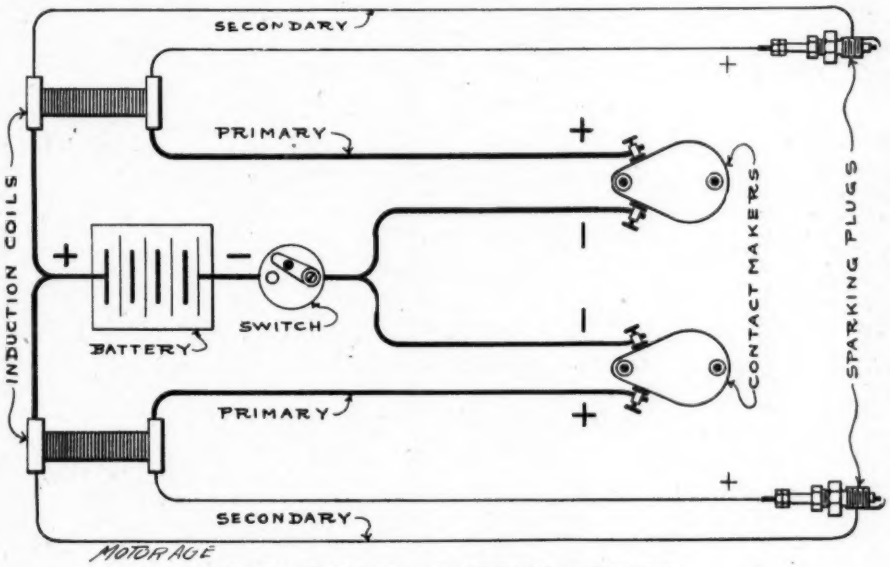


FIG. 79.—DIAGRAM OF WIRING VEHICLE.

Having proceeded this far with the work, everything should be carefully inspected to see that no dirt or chips have got in any of the teeth of the gears or around any of the bearings. The lubricators should be put in place wherever they are called for on the respective parts, all the mechanism thoroughly oiled and then tested by turning the motor with the starting handle, as before described. If everything is satisfactory, the rest of the assembling can be proceeded with; if not the trouble must be looked into and remedied before going any further with the work.

Before the body is put in place upon

the frame, the wiring for the electrical connections should be made, and this is a good time to do it. Fig. 79 is a diagram of this wiring, showing the connections to and from the ignition case to the primary connections of the induction coils and the battery. The connections from the secondary windings of the induction coils to the sparking plugs are also clearly shown in this drawing. The batteries and induction coils to the sparking plugs are also clearly shown in the drawing. The batteries and induction coils are to be located in the front or dash portion of the body, and should be so placed that they are readily accessible. The battery should have a cell or partition provided for it, preferably in the center of the box so that one of the coils can be attached upon small shelves located on each side of the battery partitions to enable the builder to make the battery connection to the induction coils and switch as shown, and avoid confusion, which is sure to occur if the induction coils and battery are arranged in any way except as shown in Fig. 79. If these instructions are carried out properly no trouble will be found in making the connections. Double conductors can be used in preference to single wires, these should be No. 18 B. & S. gauge Okonite or Kerite insulated wire.

The ends of the wire where they connect to the ignition cases and sparking plugs, must be separated by removing the outer sheathing for a length of 6 or 7 inches. Just past this point the double conductors should be coiled like a spring around a piece of ¼-inch round iron or steel, giving them, say, six or seven turns so as to have these ends more or less flexible to prevent breaking from handling or from the vibration of the vehicle when in motion. The wires can be carried out through the bottom of the front box under the platform and then around on each side of the inside of the body at the proper level to bring them out right for the ignition cases and sparking plugs. If double conductors are used, the ends next to the motor must be tested out, after the wiring is done, to get them right. This can be done easily after the body is in position on the frame, and the primary wires connected to the ignition case, when the sparking plugs can be connected up, and the motor turned around by means of the starting crank, the inspection hole covers being already removed, one wire can be connected to the insulated terminal of the sparking plug, the other attached to the motor at any convenient point. On turning the motor around, until the contact makers are in the proper position, the points should spark. If they do not, reverse the connections and try again. The second trial should bring them right. The constructor should be sure to keep his unoccupied hand off the motor while turning it, as, if connected up wrongly, he will get the most severe shock of his life, and even if connected up rightly a pretty severe one.

The front and rear axles can now be put in position. The front axle, Fig. 64, is, of course, attached to the swivel forming the front of the frame by means of the swivel bearing, Fig. 67. The front axle must be clamped in the lower portion of the swivel bearing and be located exactly central with the frame. The rear axle is held in place by the bearing brackets shown in connection with the rear axle in Fig. 71, and must be located centrally with the frame also. The spring blocks for the front and rear axle and the springs are now to be connected to the axles, and the body can then be put on and securely fastened in place. The frame during all the assembling must be still kept on the horses so as to make it possible when everything is put together, to thoroughly test the machinery before letting the vehicle down to the floor ready to run.

The steering mechanism and bracket shown in Figs. 64, 65, 66, 68, 69 and 70 should be now connected up. The connecting rod shown in Fig. 64 is first connected to the knuckle levers. The front wheels must next be put in place and lined up. The rim of one of them should be set in a plane parallel to the side of the frame block at this position and the other set parallel to it by measuring the distance between the rims of the wheels

on a line as near to the height of the hub as possible on both sides of the hubs. The wheels may thus be brought parallel and the jaws of the connecting rod adjusted to the proper centers and the lock nuts then tightened up.

The steering rod (Fig. 65) is now to be attached from the end of the connecting rod to the steering lever, underneath the body, and the steering handle put in place. This should then be adjusted to a central position, with regard to the seat, by adjusting one of the jaws of the steering rod.

The controlling mechanism should now be connected together, viz., the part attached to the body should be connected to the part upon the frame. The fast speed foot bell crank lever (Fig. 52) is connected to the lever shown in Fig. 42 by the connecting rod (Fig. 56). The vehicle brake rocker arm (Fig. 51) is also connected to the vehicle brake lever (Fig. 43) by the short connecting rod in Fig. 55, and the forward and back speed lever (Fig. 45) to the cone clutch lever (Fig. 29) by the spring rod shown in Fig. 47.

To adjust the controlling lever properly, have the center notch cut first, then set the brake band so it is on, in this position, then move the controlling lever to the positions shown in Fig. 2 for the forward and back speeds and adjust the brake band so it firmly holds the brake wheel from slipping (but not too tightly) by means of the adjusting nuts below the springs. Then set the upper adjusting nuts so that when the lever is in the central position that the brake will be lifted to its highest possible position.

The notch for the fast speed position of the controlling lever, so that the foot lever may be applied, is, of course, regulated by the location of the slot in the curved lever on the quadrant bracket (Fig. 59). The vehicle brake band must be adjusted by means of the upper and lower adjusting nuts so that it will be off when the controlling lever is in the position for applying the fast speed brake band on the internal gear brake wheel. A rod 1-4 of an inch in diameter is required, with eyes at each end, for the charge controlling device, operated by the extension stud on the end of the swivel jaw (Fig. 46), which is carried by the forward and back speed lever (Fig. 45). This rod is curved at one end and passes down under the rear portion of the frame as shown in Fig. 2 and connects to a suitable lever which is attached to the stem of the butterfly valve shown in the plan view of the carbureter in Fig. 78. Two holes about 3-16 of an inch in diameter should be drilled in the disk of the butterfly valve, viz., in the valve itself, which is a small round disk, with the valve stem passing through the center of it. The valve should be so connected to the controlling lever by the ¼-inch rod that, when the controlling lever is in the central position, with the vehicle brake applied to the wheels, that the disk of the butterfly valve is in a horizontal position and its lever in a vertical one, as shown in Fig. 2. In this manner the charge is throttled while the motor is running light.

All that now remains to be done is to connect the front part of the ignition controlling device (Fig. 75) to the front lever carried by the shaft which passes through the tube to the rear of the vehicle and connects with the ignition cases by means of the lever and rocker arm, and to put on the rear wheels and sprockets, connect up and adjust the chains and attach the muffler and secure it from vibration by the straps before specified (shown in Fig. 2).

The gasolene and water tanks may now be filled, all gearing and bearings properly oiled and lubricators filled—those on the cylinders with standard gas engine cylinder oil and those on the transmission mechanism with solid grease. The battery wiring and ignition devices, as well as the sparking plugs, should be tested to see that they are all working properly, the needle valve set and air valve properly regulated. Close the battery switch, give the motor a couple of turns with the starting lever and the wheels go flying around—but in the air, not on the ground. It is the better plan to let the machinery run in this manner for a day at least, so as to thoroughly examine all the moving parts while in

operation and discover if there be any tight journal bearings, which will soon disclose themselves by getting unduly warm in a very short time. The vehicle may be operated by the controlling lever very nicely, the forward and back speeds and the fast speed should be alternately allowed to run, so as to get everything worn down to its proper bearing before removing the horses from under the frame and trying the vehicle on the ground. Before taking the vehicle out for a spin, however carefully, examine every bolt and nut, see that everything is tight and, if necessary, give some of them an extra turn to be sure, but not so hard as to twist them in two or strip off the threads.

BILL OF MATERIAL.

PIPE FITTINGS.

Number of pieces.	Pipe thread.	Description.	Material.	Part to which pieces belong.	Shown in figure number.
1	⅛	Horizontal Globe valve	Brass	Gasolene intake	22
1	⅛	Elbow	Brass	Gasolene intake	22
2	⅛	Unions	Brass	Gasolene intake	22
2	⅜	Tees	Galvanized iron	Water tank	22
2	¾	Square head cocks	Brass	Water tank	22
4	⅜	Elbows	Galvanized iron	Water tank	22
4	⅜	Unions	Galvanized iron	Water tank	22
2	⅛	Grease cups (1-in. body)	Brass	Secondary shaft bearing brackets	28
2	¼	Grease cups (1¼-in. body)	Brass	Transmission shaft bearing brackets	19-20
1	¼	Grease cups (1¼-in. body)	Brass	Auxiliary driving shaft bracket	35

SQUARE HEAD CUP POINT SET SCREWS.

Number of screws.	Size.	Length in inches.	Part to which screws belong.	Shown in figure No.	Number of screws.	Size.	Length in inches.	Part to which screws belong.	Shown in figure No.
2	1-4, 20	¾	Ignition sleeve brackets	77	2	5-16, 18	¾	Controlling lever shaft collars	54
1	5-16, 18	¾	Bevel pinion	14	1	5-16, 18	¾	Steering lever shaft collar	68
2	5-16, 18	¾	Bell crank lever shaft collars	44	2	5-16, 18	¾	Ignition sleeve shaft levers	76
1	5-16, 18	¾	Differential gear casing	24	2	3-8, 16	¾	Driving sprocket wheels	74
1	5-16, 18	¾	Brake wheel (vehicle)	11	1	3-8, 16	¾	Crank shaft driving gear	38

HEXAGON HEAD CAP SCREWS.

Number of screws.	Size.	Length in inches.	Part to which screws belong.	Shown in figure number
2	⅜, 16	¾	Gasolene tank supports	2
4	⅜, 16	1½	Auxiliary driving shaft bracket	35
2	⅜, 16	1¼	Auxiliary driving shaft bricket	35
2	⅜, 16	2	Quadrant bracket	39
2	⅜, 16	1½	Quadrant bracket	39
4	⅜, 16	1	Brake lever shaft brackets	41
4	⅜, 16	1½	Front axle swivel bracket	67
4	⅜, 16	¾	Ignition sleeve brackets	77
4	7-16, 14	1½	Secondary shaft bearing brackets	28
4	7-16, 14	1¼	Transmission bearing brackets	19 & 20
2	7-16, 14	1¼	Cone clutch lever bracket	32
2	½, 12	2½	Rear axle bearing brackets	71
4	⅝, 11	1¾	Rear axle bearing brackets	71

BILL OF MATERIAL.—CONTINUED.

SEMI-FINISHED HEXAGON NUTS.

Number of nuts.	Size.	Parts to which nuts belong.	Shown in figure No.	Number of nuts.	Size.	Parts to which nuts belong.	Shown in figure No.
1	¼	Vehicle brake rocker arm	51	1	7-16	Controlling lever	60
1	¼	Swivel jaw	46	1	7-16	Steering rod	65
1	5-16	Forward and back speed lever	45	4	7-16	Auxiliary driving shaft bracket	71
1	⅜	Fast speed bell crank lever	42	2	½	Rear axle bearing bracket	71
1	⅜	Vehicle brake bell crank lever	43	2	½	Connecting rod	64
8	⅜	Band brake spring rods	58	2	½	Secondary shaft	25
1	⅜	Steering lever	66	1	9-16	Steering lever shaft	68
1	7-16	Cone clutch lever swivel	34	2	⅝	Quadrant bracket curved lever	59
2	7-16	Spring rod	47				

SQUARE HEAD MACHINE BOLTS WITH NUTS.

Number of bolts.	Size.	Length in inches.	Parts to which bolts belong.	Shown in figure number.
2	¼	¾	Muffler straps	2
6	¼	1	Water tank brackets	2
8	⅜	1½	Controlling lever shaft brackets	39

FLAT HEAD MACHINE BOLTS WITH NUTS.

4	⅜	1½	Steering shaft bracket	69

ROUND HEAD CARRIAGE BOLTS WITH NUTS.

6	⅜	1¾	Front spring irons	2

MACHINE SCREWS.

Number of screws.	Screw number.	Thds. per inch.	Length in inches.	Description.	Shown in figure number.
3	6	32	½	Flat head	22
16	10	32	¼	Button head	58
2	10	32	1¼	Controlling lever	60
8	14	20	¾	Flat head	17
3	14	20	¾	Flat head	15

WOOD SCREWS.

4	14	—	¾	Ignition controlling dial	75

HEADLESS CUP POINT SET SCREWS.

Number of screws.	Size.	Length in inches.	Part to which screw belongs.	Shown in figure number
1	5-16, 18	⅜	Secondary shaft collar	25
1	5-16, 18	½	Sleeve	22
1	5-16, 18	⅜	Fast speed gear	18

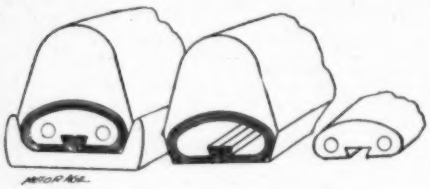
NOTE—The foregoing articles, in connection with those on the "Construction of a Gasolene Motor," completes a dual series which will be issued in book form under the title of the "Construction of a Gasolene Motor Vehicle," and sold at $1.00.

A limited amount of advertising will be accepted for the book, if received within the next week, at the following prices: Full page, $25.00; half page, $15.00; quarter page, $10.00. THE MOTOR AGE, 324 Dearborn St., Chicago.

WEEKLY PATENT OFFICE BUDGET

SEVERAL INTERESTING AND MERITORIOUS DEVICES, INCLUDING TWO FAMILIAR PATENTS ON FLEXIBLE RUNNING GEARS—OTHER PATENTS WITH AND WITHOUT MERIT

The present week's contributions to the automobile industry are of decided merit and of unquestionable lack of merit. By a strange coincidence, the patents of both A. L. Riker, for the flexible running gear employed by the Riker Electric Vehicle Co., and that of Charles T. Fletcher, for the flexible running gear employed by the Locomobile Co. of America, both come in the same batch of patents. Both are excellent and both accomplish the purpose for which they



Marks' Tire

were designed, as has been proved by long-continued practical use. Frank Lamkin's gear case, already described; and Marks' tire, complete the list of really meritorious inventions, while Young's steering mechanism and MacPherson's controlling mechanism are of doubtful merit and Pfautz' transmission gearing is unquestionably too complicated to ever be of service.

Persons desiring copies of any patents may obtain the same for five cents each from the patent office at Washington. Letters should be addressed "Commissioner of Patents, Washington, D. C.," and five cents should be enclosed for each copy of every patent desired. In thus ordering patents the number and date of issuance of each should be stated. Every motor-vehicle patent described in The Motor Age is preceded by its date and number.

MARKS' TIRE

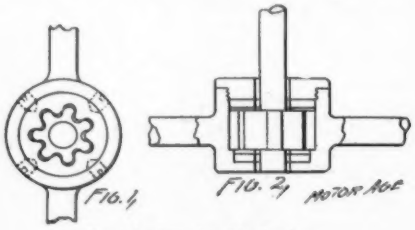
Letters Patent No. 661,614, dated November 13, 1900, to Arthur H. Marks, Akron, Ohio, assignor to the Diamond Rubber Co., same place; solid rubber vehicle tire; four claims allowed.

The tire is clearly shown in the illustration. It is of the variety that is held in the rim by wires. In order to prevent the ruin of the whole tire by the wearing of the slots in which the wires run, it is made in sections of the shape shown in the illustration. When the slots become worn too much, the inner section may be removed and a new one substituted.

YOUNG'S STEERING MECHANISM

Letters Patent No. 661,594, dated November 13, 1900, to Richard L. Young, Milwaukee, Wis., assignor of one-half to Thomas J. Price, same place; nine claims allowed.

The patent relates to steering mechanism in which a substitute for a fifth wheel is used, this substitute consisting of slots at the end of the reaches in



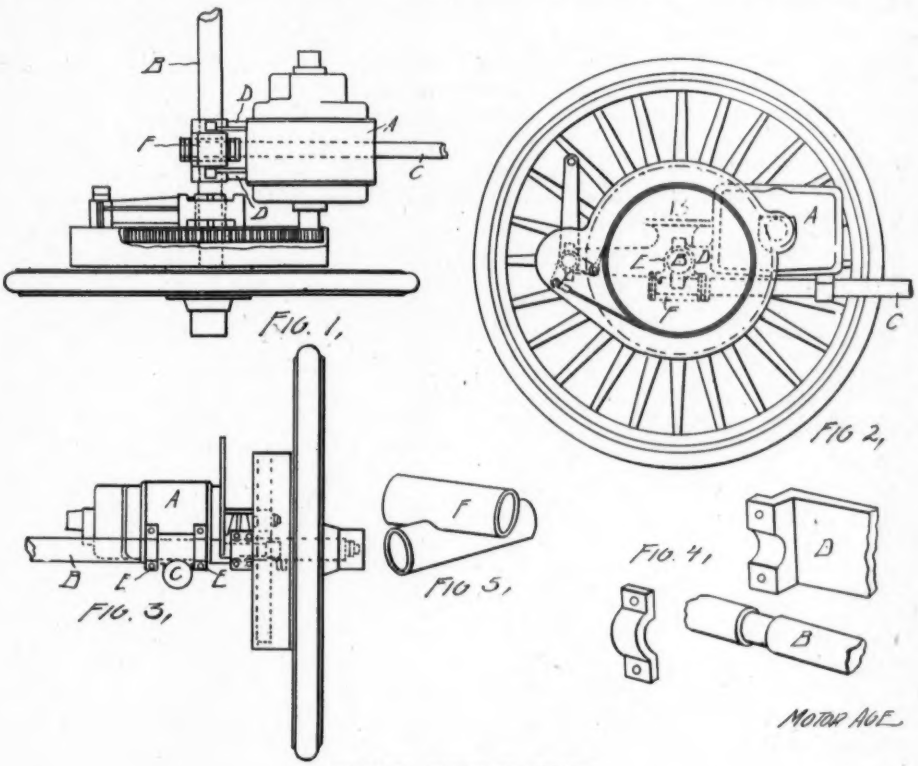
Young's Steering Mechanism

which the front axle has a limited play. The axle is turned by means of a vertical shaft, at the top of which is a hand wheel. The lower part of this shaft is shown in Fig. 2. At the extreme lower end it carries a wheel which resembles a pinion, shown in plan in Fig. 1. This pinion-like wheel is surrounded by another resembling an internal gear, also shown in plan in Fig. 1. Owing to the shape of these two gear-like members, a certain amount of play is allowed to the vertical shaft, so that when the axle

is moved from a horizontal plane by the inequalities of the road, the steering shaft will not be moved with it. The invention is of doubtful merit.

RIKER'S RUNNING GEAR

Letters Patent No. 661,553, dated November 13, 1900, to Andrew L. Riker, Stamford, Conn.; motor vehicle running gear; eleven claims allowed.



RIKER'S RUNNING GEAR.

The present patent covers the form of running gear adopted by the Riker Electric Vehicle Co. and relates to the flexible construction of the frame of the vehicle and the manner in which the two electric motors are hung on that frame. Its construction can best be understood by reference to the drawings. Fig. 1 shows a plan view, Fig. 2 a side elevation and Fig. 3 a front elevation of one of the rear wheels with the motor driving that wheel and portions of the rear axle and of one of the reaches.

A represents the motor, B the rear axle and C one of the two reaches, of which there is one on either side. The motor drives the rear wheel by means of a pinion on the motor shaft, meshing with a gear on the rear wheel, as shown most clearly in Fig. 1. Surrounding the gear on the rear wheel is a cylindrical member on which a band brake works, as shown in Fig. 2. The motor is carried above the rear axle and reach, so as to be out of the way of obstacles in the road—an advantage which, according to the patent specification, is "particularly noticeable in winter when snow drifts are piled in the roadway." The motor is rigidly attached to the reach C and is clipped rotatably around the rear axle by means of two arms D, D, and straps E, E. One of the arms and one of the straps, together with a portion of the rear axle, recessed to receive the arm and strap, are shown in detail in Fig. 4 and in position in Figs. 1, 2 and 3.

The member F, shown in detail in Fig. 5, holds the reach and also surrounds

the rear axle between the two arms and straps D, D and E, E. It is thus rotatably fixed on the rear axle and the reach is so held that it, also, is rotatable in the member F. In this manner the axle and reach are always held at right angles with each other, and, at the same time, a connection is made which allows of unlimited flexibility to compensate for the inequalities of the road. This arrangement is used to connect both reaches to the rear axle and a similar plan adopted to connect one of the reaches to the front axle, while the other reach is rigidly attached to the front axle. The frame is thus held in a substantially rectangular position at all times, and still has ample flexibility.

MACPHERSON'S CONTROLLING MECHANISM

Letters Patent No. 661,543, dated November 13, 1900, to John G. MacPherson, Philadelphia, assignor to the MacPherson Automobile Co., same place; controlling and transmission mechanism for gasolene automobiles; one claim allowed.

The mechanism consists of clutches and a zigzag, slotted arm by which the controlling arms of the clutches are actuated. The one claim allowed covers merely the exact construction shown in the patent office drawings.

LAMKIN'S AUTOMOBILE GEAR CASE

Letters Patent No. 661,583, dated November 13, 1900, to Frank Lamkin, Norwalk, Ohio; four claims allowed.

This patent covers the gear case fully described in The Motor Age of November 1 last.

PFAUTZ' COMPLICATED VEHICLE.

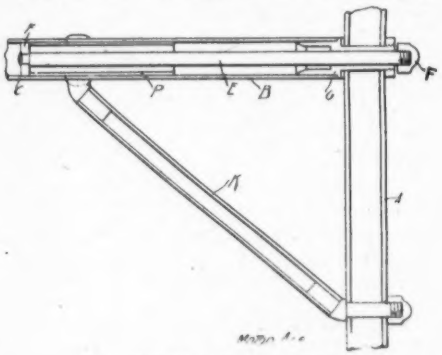
Letters Patent No. 661,704, to Daniel M. Pfautz, Philadelphia, assignor of one-half to Henry W. Amerling, same place; five claims allowed.

The patent relates to a complicated transmission and reversing mechanism in which there are a multiplicity of shafts, gears, chains and clutches, and in which the flywheel of the engine is carried on a shaft far removed from the motor. The power from the motor shaft is conveyed by sprocket wheels and a chain to a second shaft, by bevel gears to a third shaft and thence by spur gears to a fourth shaft, on which the flywheel is carried. More bevel gears, more shafts, more sprocket wheels and more chains transmit the power to the rear axle. A few clutches are thrown in for good measure.

LOCOMOBILE RUNNING GEAR

Letters Patent No. 661,508, dated November 13, 1900, to Charles T. Fletcher, Westborough, Mass., assignor by mesne assignments to the Locomobile Co. of America, New York City; automobile running gear; seven claims allowed.

Mr. Fletcher's patent covers the construction used in the frame of the Locomobile. The illustration shows a portion



Locomobile Running Gear

of one of the axles and a portion of one of the perches. The axle is shown at A and the perch at B and C. The perch is composed of two pieces of tubing. The portion C, is sleeved around a short piece of tubing D, to which it is brazed. The tubular portion B is also sleeved around the short piece D, but is not rigidly fastened thereto. The tie rod E, riveted to the partition F, which is integral with D, passes through the neck G and is held by the bolt H, so that the two tubes B and C are held as one except that they may have tortional movement, independent of each other. This gives a sufficient flexibility to the running gear to permit it to adapt itself to the inequalities of the road, without straining the frame. The brace K is to add stiffness to the frame.

NEWS OF THE MOTOR INDUSTRY

BRISK SALES OF MILWAUKEES

Frank P. Illsley, 375 Wabash Avenue, Chicago, sales agent for the Milwaukee Automobile Co., reports that the sales of the Milwaukee steam vehicles has been far more brisk than was anticipated when the branch was opened. "It was opened," he said, "with the expectation that it would just about pay expenses during the late fall and winter, but would put us in a position to secure a large share of the spring trade. Sales have been so brisk, however, that we have already done more business than we expected to do up to the opening of the spring season. A number of new improvements have been added to our vehicles, notable among which are devices to prevent trouble from freezing in the winter, which, unless all precautions are taken by the manufacturer, is sure to result in no end of trouble. I believe that this will influence sales to a large degree. I also anticipate a large sale for our moderate priced delivery wagon."

BRIDGEPORT TRADE ITEMS

Bridgeport, Conn., Nov. 17.—Frank W. Wilmot, of Wilmot & Hobbs, received the writer very courteously and us usual declared that there is only one paramount issue in regard to tube making, and that was that the clincher brass-lined tubing was the leading and important question of the day. This man Wilmot is one of the strenuous sort, a firm jaw, earnest eye betokening that when he makes up his mind to believe in anything he believes in it for keeps. The Motor Age man was certain in the opinion after talking with Mr. Wilmot, that if no one else believed in the supremacy of the Bridgeport tubing, F. W. Wilmot certainly does. The writer is of the opinion that Mr. Wilmot's contention is right, and has had the pleasure of stating that opinion in print in times past.

Manager Kingsbury, of the Bridgeport Brass Co., is one of those men that makes one feel good after a call. Kingsbury courtesy is well known among traveling men, especially newspaper men, and not a few of them remember this and do what is known as some quiet plugging for the lamp men. Mr. Kingsbury was not ready to talk lamps when your representative called, but he is evidently doing some thinking about automobile and other lamps, from what he said last Wednesday.

Harry Wells was a visitor at the New York Automobile Show, and is now back at the factory at Bridgeport attending to rushing out some important orders. Mr. Wells says he will be glad when the Locomobile's new factory at Seaside Park will be ready for occupancy. W. H. Wells, a brother, is now at the Worcester Locomobile factory.

The Bridgeport Chain Co. who closed up their bicycle chain business, is taking a peep at the possibility of supplying chains for automobile purposes.

Mr. Stiff, a well known bicycle builder and repairer of Bridgeport, is engaged in experimenting with two new motors for bicycle and carriage purposes.

WINTON IMPROVEMENTS

The Winton Motor Carriage Co., Cleveland, is mailing to its friends an announcement detailing some of the more important changes in the line of improvement which are the distinguishing features of the improved Winton for 1901, a model of which was shown at the Madison Square Garden exhibition, and which has received mention in these columns.

One of the chief improvements is the fact that the motor in the new vehicle is considerably more powerful than the old, being sufficient to justify gearing to a speed of 25 miles or more per hour; also guaranteeing greater hill-climbing capacity. Wheel steering has been substituted for lever steering, insuring a steadiness of motion and ease of control

which will be appreciated by those who have driven with a lever at high speed. For convenience, the four wheels are equipped with the same sized tires, 32x4 in making it unnecessary to carry two sizes for cases of emergency.

An improvement which will lengthen the life of the vehicle is the encasing of the driving gears and running them in oil. This insures protection against dust and dirt and removes the possibility of soiling one's garments or of oil dripping on the carriage house floor.

The gasolene storage capacity has been increased to eight gallons, insuring continuous operation over 150 miles of average roads, an advantage which will be appreciated by tourists. The rear axle countershaft has been done away with and the motor is geared to an improved differential upon the rear axle. The former conspicuous muffler at the rear end of the carriage has been replaced by one which is longer and of smaller diameter, running lengthwise with the motor, and so high from the ground in the center of the carriage body that it escapes general notice. It serves its purpose much better than the former device, rendering the vehicle almost noiseless.

The carbureter has been improved and is of a size considerably smaller than the former one. The new device affords stronger action, a quicker mixture and is said to be so simple and accessible that confidence of ready action from this source is at once felt. It is also claimed that it will not "flood."

A decided improvement is in the sparking device. Each carriage is equipped with two sets of primary batteries, and when, after continuous service, one of the sets evidences weakness, the sparker can be instantly switched to the other. The batteries are small, light and inexpensive and can be replaced with small outlay. The circulation of water for cooling the cylinder is added by a small pump of simple construction which performs its work with absolute certainty and is not likely to get out of order. A new and improved system of brakes is another feature giving the operator a sense of perfect security.

The improvements mentioned will be features of the double seated carriage and the delivery wagon as well as the standard phaeton.

A NEW CREST MOTOR

The Crest Mfg. Co., of Cambridgeport, Mass., is now putting on the market a new type of Duplex 5-horsepower motor. This motor is especially designed for hard service, and to meet the demand for increased power for speed and grades. This motor is of the same high standard which has marked the Crest motors since their introduction on the market. Everything is made strictly to gauge and every part is interchangeable. The motor carefully balanced, vibration is practically eliminated, and each motor is tested under trying conditions before leaving the factory, so as to insure its working.

The general design of this motor differs from their present type of 4-horsepower, making it much easier to get to the working parts. Eight bolts can be removed from the crank-case and the entire working parts are exposed. This motor, it is said, can be dismantled more quickly than any motor on the market. This is an important item and will be appreciated by all automobilists.

The general construction of the motor is similar to their present 4-horsepower, which consists of two horizontal cylinders which contain the trunk pistons. The crank-case contains two heavy fly wheels. The two connecting rods of the pistons work on one crank-pin. Every working part is automatically lubricated. All the working parts are in the crank-case, being unaffected by dust and dirt.

An improvement on the electric ignition has been made by which the life of the battery has been greatly increased, and the method of ignition is very simple. It is well known that air-cooling is limited by the diameter of the cylinder and by combining two cylinders as done by the Crest company, they can double the power and still retain all the advantages that come from an air-cooled motor. Another advantage is that each cylinder is independent, so that by merely operating a switch each cylinder can be run sep-

arate from the other. This is important as one cylinder has sufficient power to run a carriage, which insures the automobilists against any danger of a tie-up on the road. Automobilists of long experience will appreciate this.

The company has now made arrangements by which they can furnish every part connected with automobiles, either gasolene or steam types. They also furnish working drawings to their customers and any necessary data by which a motor carriage can be constructed without the risk of experiment and expense. They sell only the best types of accessories, either foreign or domestic, and furnish nothing that is experimental.

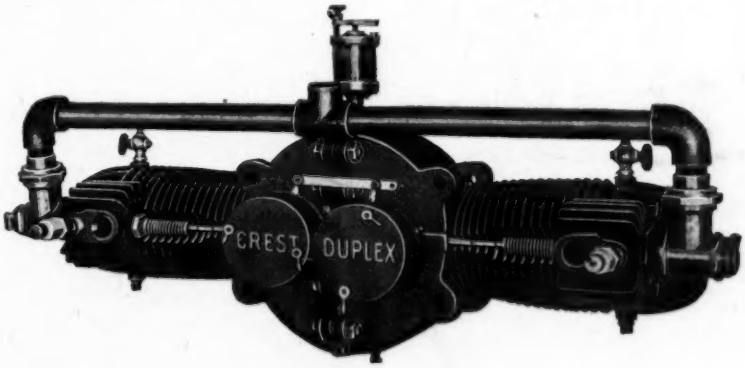
SPRINGFIELD MOTOR VIHICLE CO.

The Springfield Motor Vehicle Co., of Springfield, Mass., is a corporation composed of well known business men of Springfield. Its capital is $50,000. In the company are two men who have been very successful along the line of mechanical invention and the output of the company will be very largely the result of the work of these men. It is the purpose of the company for the present at least to confine itself to the manufacture of wagons for business purposes. It already has wagons working successfully. The wagons thus far built are said to have several points of superiority, one of which is the entire elimination of vapor under all conditions of service.

The company is but recently organized and is now passing through the preliminary stages. It hopes to be fully equipped for business very soon.

READING CATALOGUE

The Steam Vehicle Co. of America, 253 Broadway, New York City, has issued an elaborate catalogue, descriptive of their Reading steam carriages, which were described and illustrated in The Motor Age recently. Unlike many catalogues, the one of this company goes into details quite at length, giving the reader an excellent idea of what the company offer to the public. The Reading carriage is shown in two designs, one with and one without top, and, in addition, a delivery wagon of very attractive appearance is shown. Particular stress is laid on the fact that the vehicle is absolutely noiseless.



CREST DUPLEX 5-HORSEPOWER AIR-COOLED MOTOR.

ANOTHER OHIO CONCERN

Cleveland, O., Nov. 19.—The Beardsley & Hubbs Mfg. Co., with headquarters at Mansfield, O., has been incorporated under the laws of West Virginia with $100,000 capital stock, of which amount $76,000 is paid in. The incorporators are V. S. Beardsley, C. O. Hubbs, B. W. Willit, C. E. McBride, E. L. Sanderson and C. Darling. The last two mentioned gentlemen were formerly in the bicycle business in this city. The company will manufacture a gasolene vehicle designed by Mr. Darling. The Mansfield people

mentioned have been, for a number of years, in the buggy manufacturing business and the plant will be utilized for the woodwork and finishing. An adjoining factory building has been secured for the machine shop. Material is being purchased and 150 vehicles will be built between now and spring.

BUSINESS RESULTS OF THE SHOW

New York, Nov. 18.—A partial tour of the trade last week by a Motor Age representative, embracing chats at offices and stands at the Grand Central Palace show, discloses a state of unanimous satisfaction with show results and a universal chorus of approval of shows as a good business proposition.

It may not be out of place to quote a few instances; though the interviews were merely incidental to business calls and there was no attempt to make a complete canvass.

The Steam Vehicle Co. of America made its bow to the public at Madison Square Garden without previous advertisement, yet the Reading wagons through the catchy runabout and the neat delivery wagon shown are now well known and frequently mentioned.

"I don't know how we did it," said Manager Schermerhorn, "but we surprised ourselves by selling forty vehicles. We have been encouraged to open a storage and repair stable at No. 160 West 56th, where storage facilities may be had and a competent staff of repairmen may be found.

"We are well satisfied with the results of our hill-climbing exhibit at the Garden and with what we have done here," said Eddie McDuffee, the "Mobile" demonstrator, and he whirled the motor Age man around the little track at the Palace one day last week.

"From the opening of the Garden show up to now we have sold seventy-five carriages"

At the downtown office of the New York Motor Vehicle Co. your correspondent was told that it would take two years to fill all the orders ahead, even if the Worcester factory at Middletown were secured.

The Westerners were well pleased with results. The National Automobile Co. of Indianapolis, Ind., and the Ohio Automobile Co. of Warren, Ohio, were enthusiastic in their expressions of satisfaction.

The business of such great and well established concerns as the Winton and Locomobile companies was commensurate with their position in the front rank of the trade.

These are but a few straws, but they show which way the wind blows.

AUTOCAR CO.'S CATALOGUE

One of the most attractive catalogues that has come to the offices of The Motor Age is the little one of the Autocar Co. of Ardmore, Pa., describing the gasolene vehicles that they are just putting on the market, after long and careful testing. Within the semi-transparent covers of the booklet is told briefly but comprehensively, the story of the construction and merits of the runabout and phaeton that the company is offering to the buying public.

WHITNEY CHAINS

The Whitney Mfg. Co. of Hartford, Conn., makers of automobile and bicycle chains are sending out a very convincing circular on the merits of their chains. The circular contains some testimonials of much more forcefulness than is usual. One comes from the Gormully & Jeffery Mfg. Co., who used more than 40,000 chains in 1899-1900. Among the concerns whom the Whitney company furnishes exclusively is the Locomobile Co. of America.

BRIEF NEWS OF THE INDUSTRY

The Howard Automobile Co. of Jersey City, N. J., is enlarging its plant.

The Forsburg Spring & Gear Co., of Rome, N. Y., has been incorporated for $5,000.

It is rumored that Panhard & Levassor, the big French manufacturers, are going to open works in England.

The Howard Automobile Co., 105 North Broad Street, Trenton, N. J., have issued a neat little pamphlet describing their steam carriage, which are illustrated in two stanhope models, one with and one

without buggy top, and also in a surrey model.

Frederick W. Spelz of Chicago, has filed a petition in bankruptcy, as the result of his connection with the defunct Elgin Automobile Co. He schedules $23,000 of stock of that concern.

A vast number of De Dion vehicles have been sold in England, by the English licencees, while a great many more, made by the German licencees, have been sent to England and sold there.

The Ohio Paint & Varnish Co. of Findlay, Ohio, have decided to try the use of automobiles for their travelling men. J. T. Thornley will be the first one to start out for the company, according to newspaper report.

The Cycling West and Automobile Field of Denver, has projected a novel plan by which its publishers hope to reap profit, and, at the same time, offer to motor vehicle manufacturers an opportunity to show their goods through western territory at a small expense and to stimulate interest in automobiles in that territory. The plan is to charter a special train and to carry on it representatives of various manufacturers, together with samples of their vehicles, making stops of varying duration at many of the larger cities, where small automobile shows will be held. There appears to be merit in the plan and it should prove of value to makers who are looking for agencies in the west.

The factory of the Cook Machine Co., at Delaware, Ohio, was destroyed by fire a few days ago. Some time ago the company took a contract to build automobiles for the Buckeye Buggy Co., of Columbus. The first machine had been completed and was being tested when the accident occurred.

The Calumet Tire Rubber Co. of Chicago are the owners of the patents recently granted to Raymond B. Price for solid rubber vehicle tires. These tires embody an entirely new, and, it would appear, sound principle. As soon as the company are in a position to fill orders, they are going to make a determined effort to secure a large share of the automobile tire business.

The Rambler sales department of the American Bicycle Co., North Franklin Street and Institute Place, Chicago, have issued a small catalogue of the Rambler gasolene automobile. The booklet is neatly printed in two colors. The one model of runabout is illustrated from a photograph taken on the Lake Shore Drive, with the famous Grant Monument in the rear. It is also shown with a buggy top. The description is full and lucid.

FROM THE FOUR WINDS

BRIDGEPORT'S CENTENNIAL

Bridgeport, Conn., Nov. 17.—Bridgeport knows how it feels to be 100 years old. It celebrated that feeling on Monday, when 10,000 of its male citizens marched in array through its streets and in that march exhibited to the 80,000 spectators what Bridgeport has done in the arts and sciences in a century.

Of course Bridgeport is not as big as Chicago, and there are living in Bridgeport, today, men whose locks are white with years and who skip around like fifteen-year-olds, who remember the birth of the great city by the lake, where, but a little more than a half century ago, the tepee of the Indian graced the site of the now great city. Connecticut, and New England generally, can give Chicago cards and spades in the way of an exhibition of age and juvenility—for the average down-easter doesn't live that strenuous life made famous in the effete East by that champion of strenuosity, Theodore Roosevelt, ex-cowboy, ex-soldier, and soon to be ex-governor and vice president of these United States, and which our Teddy learned in the West,

where almost everyone lives a strenuous life.

But to return to the parade—all Bridgeport was there, and not the least of the attractive features was the automobile division, which acted as a flying squadron under the command of the grand marshal. It is maintained that this is the first time in history where the automobile has been put to such a use, and therefore Bridgeport claims the record. The idea of using automobiles as a flying squadron showed that Bridgeport is up to date. The automobile division was in charge of T. E. Griffin, and consisted of the Automobile Club of Bridgeport, Jonathan Godfrey, president. Locomobiles from the Locomobile Club of America and an especially decorated Locomobile representing the Women's Clubs, about fifty altogether were in line.

The local automobile club contributed over half its membership, consisting of Messrs. Jonathan Godfrey, John C. Speirs, George W. Hills, Dr. C. C. Godfrey, Frank A. Wilmot, C. Barnum Seeley, T. E. Griffin, Arthur K. L. Watson, H. N. Wells, F. W. Bolande, A. N. Stanton, J. N. Buckley, Dr. C. Lincoln Banks, John C. Shelton, Stanley Beach and E. V. Sloan. These all drove Locomobiles with the exception of Mr. Stanton, who had his gasolene carriage in line. Jesse A. Stewart and Joseph K. Stagg were buglers. The vehicles of the Automobile Club were decorated by blue pennants bearing the device of a motor carriage wheel, the club emblem. The members wore the regulation French automobile cap of leather. The Locomobile company's exhibit included some of their latest products which were viewed with interest.

The flying squadron formed on East Washington Avenue and would have started on time but for the fact that the gates on Hallet Street were held down a long time for a freight train, dividing the body in two sections. The automobiles flew down Pembroke Street to find that the head of the column had just started up East Main Street. They then raced back Pembroke and went clear to Jane Street and waited for the procession on Noble Avenue. The crowds on the East Side thought there was no automobile section as advertised. The automobiles were useful in clearing the way on Main Street which had become congested with the immense number of people thronging its entire length. Out Clinton Avenue the autos made the countermarch and rested.

Of course Bridgeport was delighted with the part the automobiles played in the celebration of its centennial, as their advent made a fitting close to the century of history made by the city and the further fact that the factory of the largest makers of automobiles is located in Bridgeport.

FRENCH HILL-CLIMBING CONTESTS

The third annual French hill climbing contest, held at Chanteloup, about forty kilometers from Paris, was held on November 4, under the auspices of Le Velo and the Moto Club de France. The distance was 1,820 meters—about 1⅛ miles. The event was confined to regular motor vehicles, the motocycles being barred.

The event was won by Henri de Rothschild, son of the famous banker, who rode under the name of Doctor Pascal. He covered the distance in 3:45 4-5. This is the best record made by a gasolene vehicle, although it is far behind that of Jenatzy in his electric racing machine, who covered the course in 3:02, and that of Beconnais, who covered it on his motocycle in 2:34 4-5. The winner carried four passengers in his vehicle in the contest, but afterwards tried the course without other passengers than himself and succeeded in negotiating the grade in 3:26. Marcellin tried for the record in his voiturette and made the distance in 3:04 4-5, after stripping the vehicle of almost everything but the motor.

There were five classes, viz., first, vehicles weighing more than 400 kilograms (880 pounds) and carrying four passengers, this class being divided into subclasses according as to whether the motors employed gasolene or an alcohol compound; second, vehicles weighing more than 400 kilograms and carrying six persons; third, vehicles weighing less than 400 kilograms and carrying two persons; fourth, vehicles weighing less

than 400 kilograms and carrying four persons; fifth, vehicles weighing less than 250 kilograms (550 pounds) and carrying two persons. The times for the winner of each of the classes, and subclasses, in the order in which they were named was 3:45 4-5, 5:34 2-5, 5:10, 4:08 4-5, 5:57 3-5 and 5:56 2-5.

After the contest the competitors and others adjourned to a banquet, at which there were no less than 315 dinners. The banquet was not held at Chanteloup, where the contest took place, by the courtesy of the authorities, but at Poissy, near by. During the speech making, an officer of the Moto Club, in view of the fact that the town of Chanteloup had been deprived of the money paid for the banquet, announced that the club would donate 100 francs ($20) to the charity committee of the afflicted town. The mayor of the town said that the municipality would accept the donation with thanks, but that he thought that the amount should be at least doubled. And it was.

AN AUTOMOBILE CATAFALQUE.

Automobile hearses are nothing new, but a self-propelled bier has something about it that is distinctly original. At least the many mourners who followed the remains of the late lamented Mrs. Tighe, of Metuchen, N. J., to St. Francis' Catholic Church think so. Mr. McDebs, the undertaker who undertook the task of seeing to it that Mrs. Tighe's ashes were given a proper send-off, is enterprising, and when the pall-bearers had tenderly carried the coffin from the hearse to the bier at the foot of the middle aisle they were surprised when he said: "That will do. Thank you. Now follow me."

The undertaker turned a switch at the side of the "autobier" and the thing began to move, the funeral director following behind. As a well-behaved autobier should, it moved slowly; but the sight was too much for the pall-bearers and many of the friends of the late Mrs. Tighe, for in an instant almost the entire assemblage had fled from the church. Hurriedly turning off the current, the up-to-date funeral director hurried after the superstitious throng, shouting: "Hey, there! hey, there. It's all right. It's only an automobile! Come back!"

Reassured, but still suspicious, the people slowly filed back into the sacred edifice, and the services proceeded. Father Graham, who conducted the rites over the deceased, was the only one who stuck to his post when the strange catafalque came sedately up the aisle under its own power.

A FAST CLUB RUN

New York, Nov. 18.—Seventeen vehicles belonging to members of the Automobile Club of America participated in a club run on Saturday from the Waldorf to Ardsley Casino, a distance of 28 miles. The return was by way of Irvington, White Plains and Mamaroneck.

The run out to Ardsley was very much like a race. A. C. Bostwick, S. T. Davis, Jr., C. J. Field, J. Dunbar Wright and C. G. Ridegway were in the leading bunch at Yonkers. At this point Mr. Field suffered a puncture and Messrs. Bostwick and Davis pulled ahead. The latter beat Bostwick to the Casino by a few seconds in 1 hour and 12 minutes, which is now the Waldorf-Ardsley record.

D. Grant Lyman, in his Panhard, was third, and C. J. Field, C. G. Ridgeway, Mr. Otto and J. Dunbar Wright followed in order. G. F. Chamberlin was eighth, and Robert W. Graves was ninth. Jefferson Seligman's and Winslow E. Buzby's vehicles also took part.

MOTOR FOR TRAVELING MEN

The automobile has superseded railroads and wagons in the affections of O. W. Ramsey and W. C. Wagner, traveling salesmen for St. Louis wholesale houses, whose route is through the mountainous section of Southern Missouri, says the St. Louis Republic. They have just returned from a trip of 1,000 miles through the Ozarks and the surrounding country, having made the trip in a 2,300-pound automobile, which carried 1,000 pounds of baggage. The trip consumed one month, less than half the time required when

FIRST ANNUAL
NATIONAL
AUTOMOBILE
EXHIBIT
AT THE
Chicago Coliseum
March 23-30, 1901
FOR DETAILS ADDRESS
THE MOTOR AGE
Monon Building
CHICAGO

they traveled by the railroad and in wagons from stations to inland towns.

The trip, made as an experiment, which neither of the salesmen thought would prove satisfactory, was so successful that both men have decided to go over their territory in automobiles after this year. They are, perhaps, the first salesmen in this country to use the automobile instead of the railroad to cover a territory in rural districts, where the roads are so bad that they are impassable for wagons in some places. Certainly they are the first men in Missouri to invade the country towns in the horseless carriage. Mr. Ramsey talked enthusiastically of his trip.

"Mr. Tibbets, who ran the machine, Mr. Wagner and myself left St. Louis on Tuesday, September 4, traveled over our route and got back to St. Louis on Tuesday, October 2," he said. "Our trip was the most remarkable one ever made in an automobile. We climbed hills with a pitch of forty-five degrees, forded several shallow streams, ran over roads of loose boulders, over clay roads so soft that the vehicle sank in the mud to the axles, but we always managed to pull out all right.

"The roads were so bad in some places that we had to cover them with boughs of trees and run the machine over them. The machine not only carried us and our baggage where wagons traveled, but also where wagons could not travel, as the numbers we passed stuck in the mud evidenced. The propelling power of the machine is gasolene, which we were able to procure at all towns along our route.

"The trip was successful in every respect. We saved time, transportation charges and traveled when we felt inclined. We did not have to get up at all hours of the night to catch trains. We did not have an accident on the trip, and the carriage returned as sound as when we started, with the exception of the tires on the rear wheel, which were cut by the sharp rocks. The last 150 miles of our journey the machine traveled on the rims of the rear wheels. Our route was through the following towns: De Soto, Silica, Hillsboro, Potosi, Mineral Point, Bismark, Doe Run, Ironton, Centerville, Tip Top, Van Buren, Salem, Waynesville and Rolla."

RAPIDLY DISAPPEARING

"Paw," said Ostend, reading the war news, "what are disappearing carriages?"

"Those drawn by horses," responded paw, without looking up.—Chicago Daily News.

NOTES OF INTEREST

Lee, Mass., has an ordinance limiting the speed of "all vehicles not propelled by animal power," to six miles an hour.

The Paris prefect of police has established regulations preventing automobile cab drivers of Paris from demanding extortionate rates. The maximum rate per hour is about fifty cents.

The Automobile Club of France has added a theater to its magnificent club house. The interior of the theater is entirely white, with the exception of the club monogram in gold on the panels. The club now has more than 2,000 members and is more of a social organization than a real automobile club. The Motor Club de France, composed in part of seceding members of the older organization, having taken an active part in the promotion of contests and trials of particular interest to the industry.

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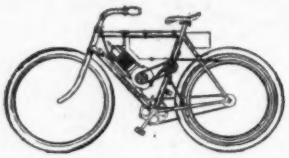

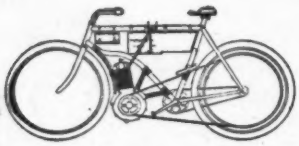

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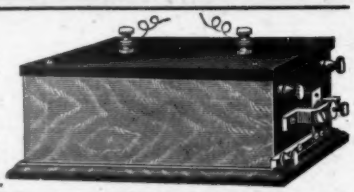

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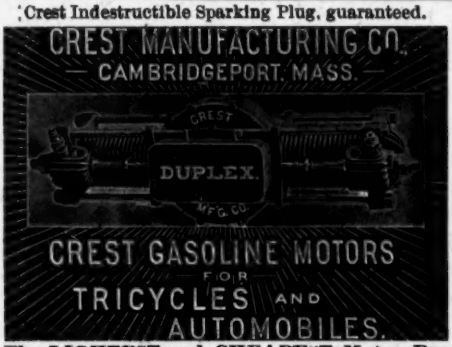

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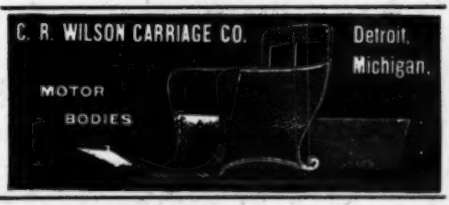

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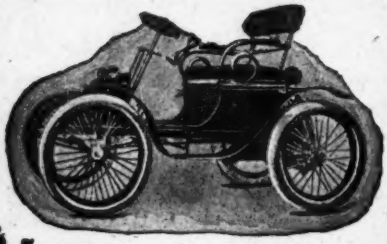

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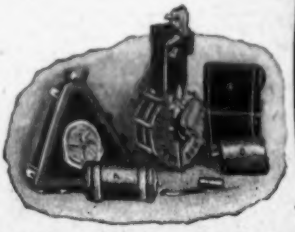

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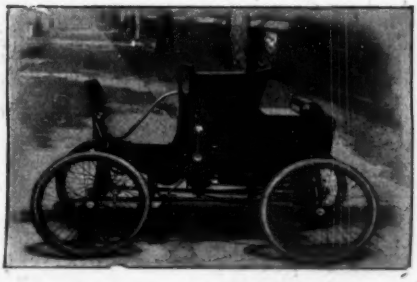

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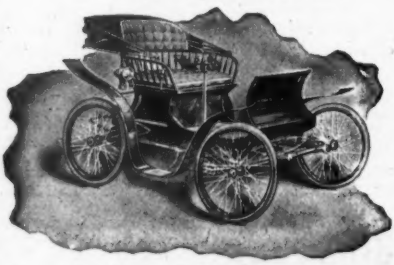

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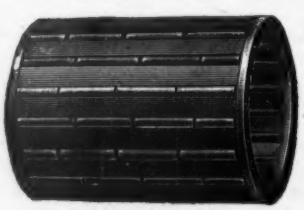

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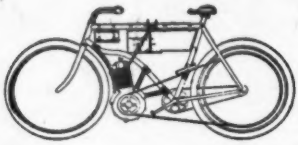

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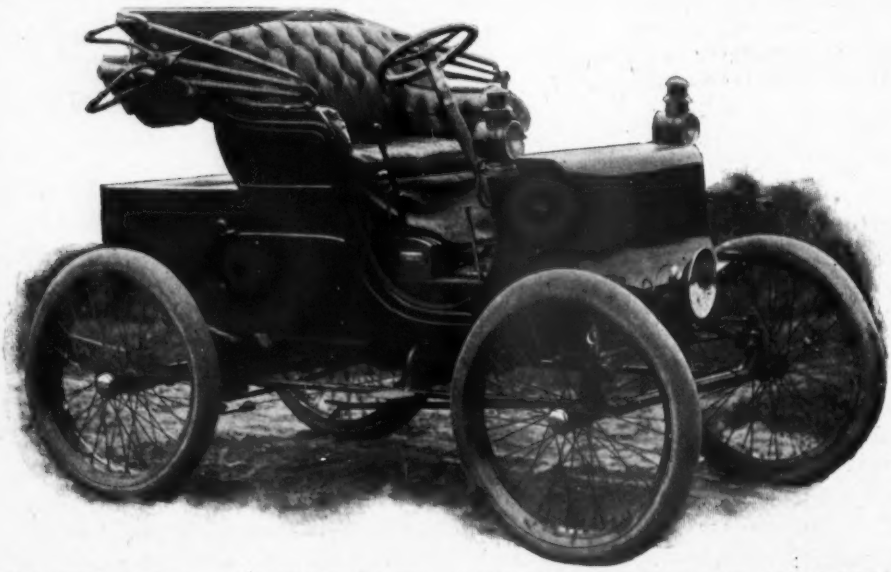

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